



CHAPTER 2
INVENTORY
MASTER PLAN UPDATE

Nogales International Airport
Santa Cruz County

April 2002

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CHAPTER 2 INVENTORY

Nogales International Airport is a general aviation airport located on the foothills of the Patagonia Mountains, near the Arizona and Mexico border. It is open to the public and attended between 7:00 am to 7:00 pm. Like the adjacent U.S. City of Nogales, it is small but with international implications. The modest border community serves as a port-of-entry between the United States and Mexico because of its close proximity to the international border. Similarly, Nogales International Airport is a small general aviation facility designated as an airport-of-entry in the national airport system, accommodating both domestic and international general aviation, corporate, cargo, and air taxi traffic. Government organizations utilizing the airport include the military, National Guard, and Border Patrol.

2.1 AIRPORT HISTORY

The airport's establishment began on January 1928 when the Santa Cruz County Chamber of Commerce bought property north of Nogales for an airfield. The airport opened with a grass airstrip in March 1928, with the official dedication taking place in September 1929. The original land was deeded to Santa Cruz County on October 3, 1928. During these early years, the first scheduled air service began operating out of Nogales International Airport. The service was provided by Pickwick Airlines and consisted of flights into Mexico. After Pickwick's unsuccessful attempt to establish scheduled air service at Nogales International Airport, other airlines followed with the same failed results. Some of these airlines included Frontier Airlines, Copper State Airlines, and international airlines such as Aeronaves de Mexico and Latin American Air Transportation Line. During World War II, Nogales International Airport was host to a Navy V5 training program and the Civil Air Patrol. The two remaining parcels of land were deeded to Santa Cruz County on December 1942.

2.2 DEVELOPMENT HISTORY

Nogales International Airport has evolved from a grass airstrip into a modern facility with a 7,200-foot paved runway with parallel taxiway (**Table 2-1**). The airport began as a graded area with native earth and a grass surface. It was not until March 1944 when the airport had its first paved runway. In addition to paving the north-south grass strip, a new primary northeast-southwest runway with parallel taxiway was constructed. Later the same year (August 1944), a new aircraft apron with lighting was added. The next year, new Air National Guard lighting with contact lights were installed on the northeast-southwest runway. Between 1956 and 1975, additions to the airport included taxiway strips, hardstands for tiedowns, an aircraft fueling facility, a TVOR/DME, access road, and power service.

The undertaking of airport improvements has been a part of the airport's history in the continuous effort of maintaining the airport. Improvements to the pavement areas have included resurfacing, which involved armor coating and sealcoating at various times, remarking, and strengthening. The primary runway was strengthened and paved with asphaltic concrete in 1989. Usage and, consequently, upkeep, of the original north-south runway, which had become the crosswind runway, ceased around 1988. Eventually, the crosswind runway deteriorated to the point of nonexistence. Other improvements have

included the development of a drainage system, seed and drainage repair, remodeling of public restrooms, and lighting improvements.

Recent airport developments have included an airport access road, new terminal building, runway extension, land acquisition, and fencing. The placement of industrial park infrastructure, which began in 1997, is nearing completion. The infrastructure consisted of water distribution and transmission line, wastewater collection, transmission, and treatment facility, and extension of the access road. Between 1998 and 1999, airport development has included a commercial apron, heliport facility, and new hangars.

TABLE 2-1 AIRPORT DEVELOPMENT HISTORY

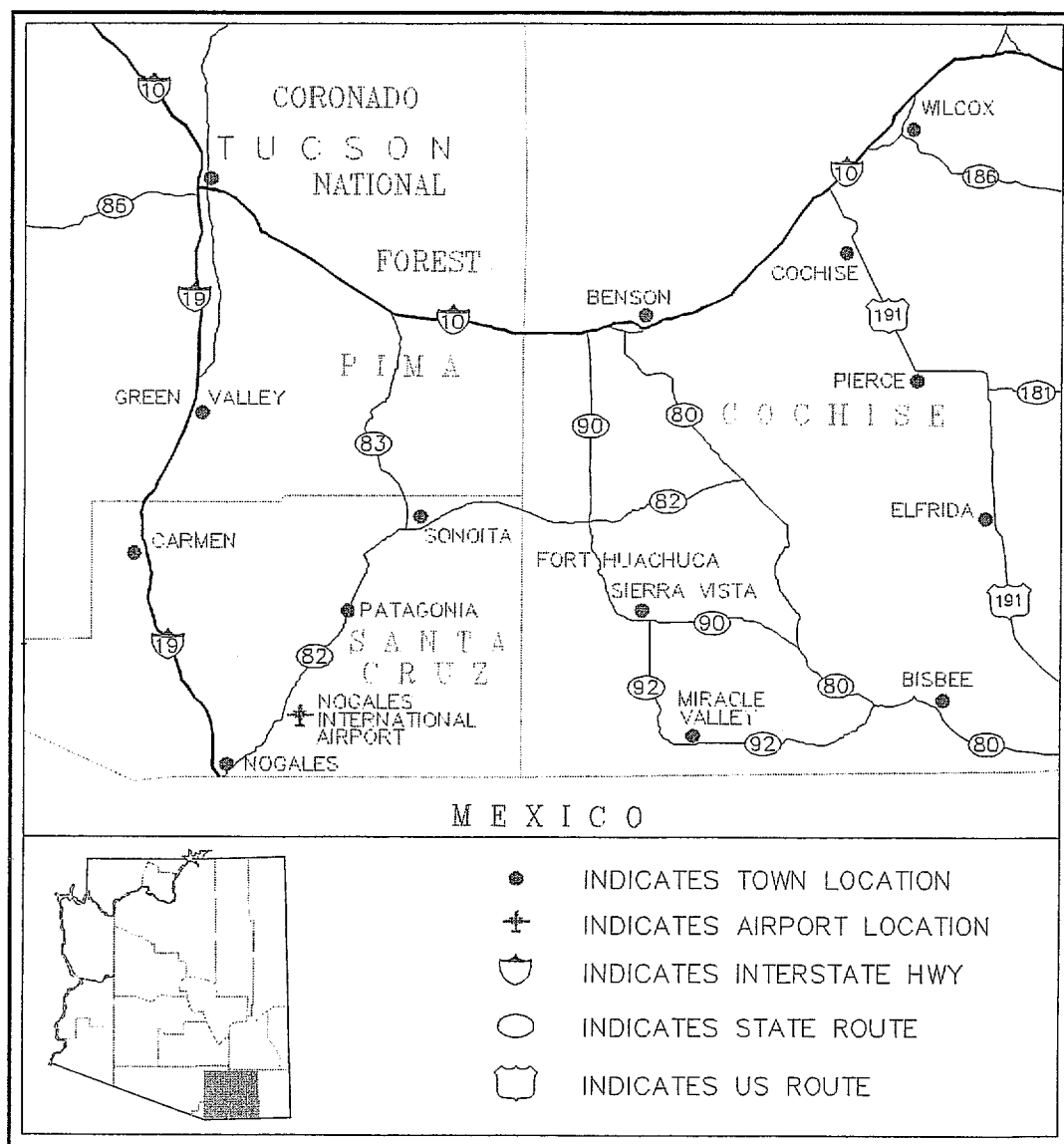
DATE	DEVELOPMENT DESCRIPTION
March 1928	Airport opened as a rectangular (1,980' X 4,180') graded area facility with native earth and grass surface.
March 31, 1944	Paving (asphalt) of the N-S 500' X 2,500' grass airstrip. Federal funds (\$106,356.70).
March 31, 1944	Construction of a new NE-SW 150' X 6,000' asphalt runway and parallel taxiway. Development included an airport drainage system. Federal funds (\$221,694.50).
August 25, 1944	New 100' X 200' lighted aircraft apron. Federal funds (\$10,357.50).
June 23, 1945	Runways and taxiways marking. New Air National Guard lighting with contact lights on NE-SW runway. Federal funds (\$992.10).
February 12, 1945	Seed and drainage repair. Federal funds (\$80,610.70).
April 1, 1956	Armor coat runway. Federal funds (\$24,000). Total cost was \$40,000.
June 1, 1956	Taxiway strips. Federal funds (\$6,000). Total cost was \$10,000.
July 1, 1956	Hardstands for tiedowns. Federal funds (\$3,000). Total cost was \$5,000.
September 10, 1965	Resurface and marking of existing 6,000' X 90' Runway 3-21 (Project No. 9-02-021-C501). Federal funds (\$327,427).
May 1, 1967	New aircraft fueling facility. Service provided by Standard Oil of Ohio.
September 20, 1971	Sealcoat runway, taxiway, and ramp. Marking and striping of runway. Remodel public restrooms. State funds (\$15,000).
October 1975	Acquire and install TVOR/DME, and construct access road and install power service (Project No. 7-04-0024-01). Federal funds (\$88,357).
1984	Surface main runway. Federal and state funds (\$222,031).
1984	Taxiway and lighting improvements. Federal and state funds (\$508,047).
1989	Strengthening, paving (asphaltic concrete), and striping of main runway. Federal and state funds (\$409,402).
1991	Construct portion of airport access road. Federal and state funds (\$40,635).
1993-1994	New airport terminal building. State funds (\$458,000).
1996	1,200-foot Runway extension (100-foot wide), land acquisition, and fencing. Federal and state funds (\$1,842,313).
1997-2000	Placement of industrial park infrastructure, which included water distribution and transmission line, wastewater collection, transmission, and treatment facility, and completion of road. Nearing completion. EDA and state funds (\$1,605,000).
1999	Commercial apron and new heliport facility. Federal and state funds (\$452,549).
1998-1999	Construction of one FBO hangar and six box hangars. State funds (\$307,566).

Source: Santa Cruz County, Public Works Department. Note all federal and state funded projects included a locally funded match.

2.3 AIRPORT SETTING

Nogales International Airport is located in Range 15 East, Township 23 South near the Arizona and Mexico border, approximately 60 miles south of Tucson (**Figure 2-1**). The airport lies on the foothills of the Patagonia Mountains at an elevation of 3,952 feet above sea level surrounded by the Coronado National Forest. It is the only developed airfield in Santa Cruz County. Nogales International Airport is six miles northeast of Nogales, which is the nearest city to the airport. Although the City of Nogales is modest in size, it is the largest city in Santa Cruz County with a population of over 21,500. The city serves as the county seat. As a port-of-entry for Mexico-U.S. traffic, it is also the economic center of the county. An area designated for aviation-compatible industrial park development is located between the airport access road and the westernmost airport property boundary.

FIGURE 2-1 AIRPORT LOCATION MAP

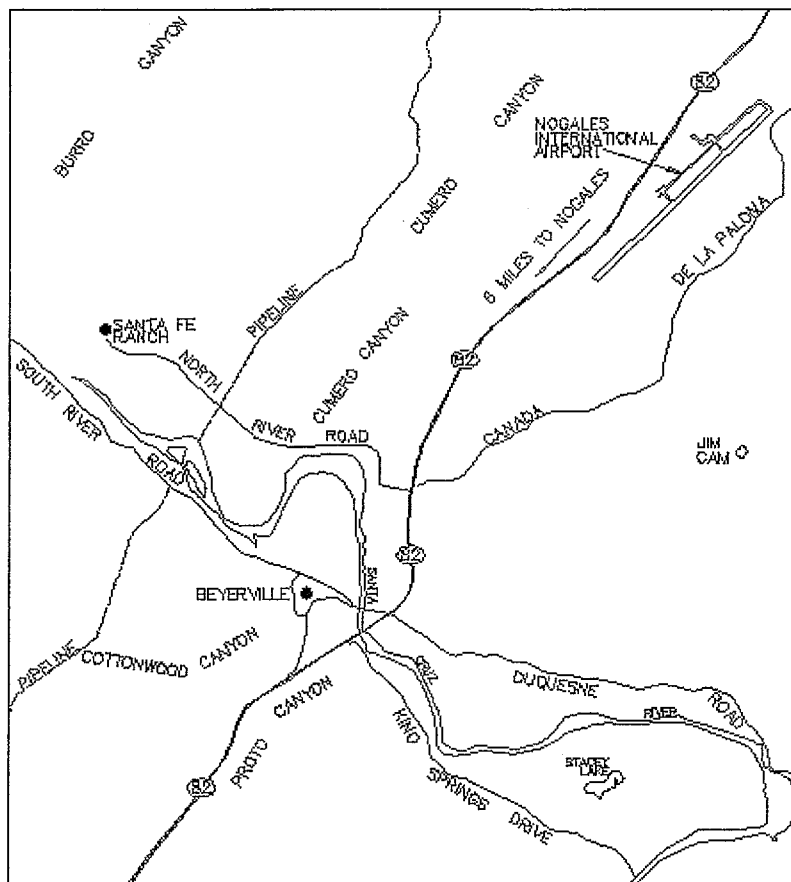


Not to Scale
Prepared by Stantec Consulting Inc.



The City of Nogales links with Tucson, Arizona through Interstate 19 and Southern Pacific Railroad. Running northeast from Nogales, State Route 82 connects the city to the airport (**Figure 2-2**). The 370-acre airport property lies southeast and just off the roadway. A two-lane paved roadway provides access to the airport facilities from State Route 82. Additional dirt service roads run through the property providing passage for airport operation and maintenance purposes.

FIGURE 2-2 AIRPORT VICINITY MAP



Not to Scale
Prepared by Stantec Consulting Inc.



2.4 AIRPORT FACILITIES

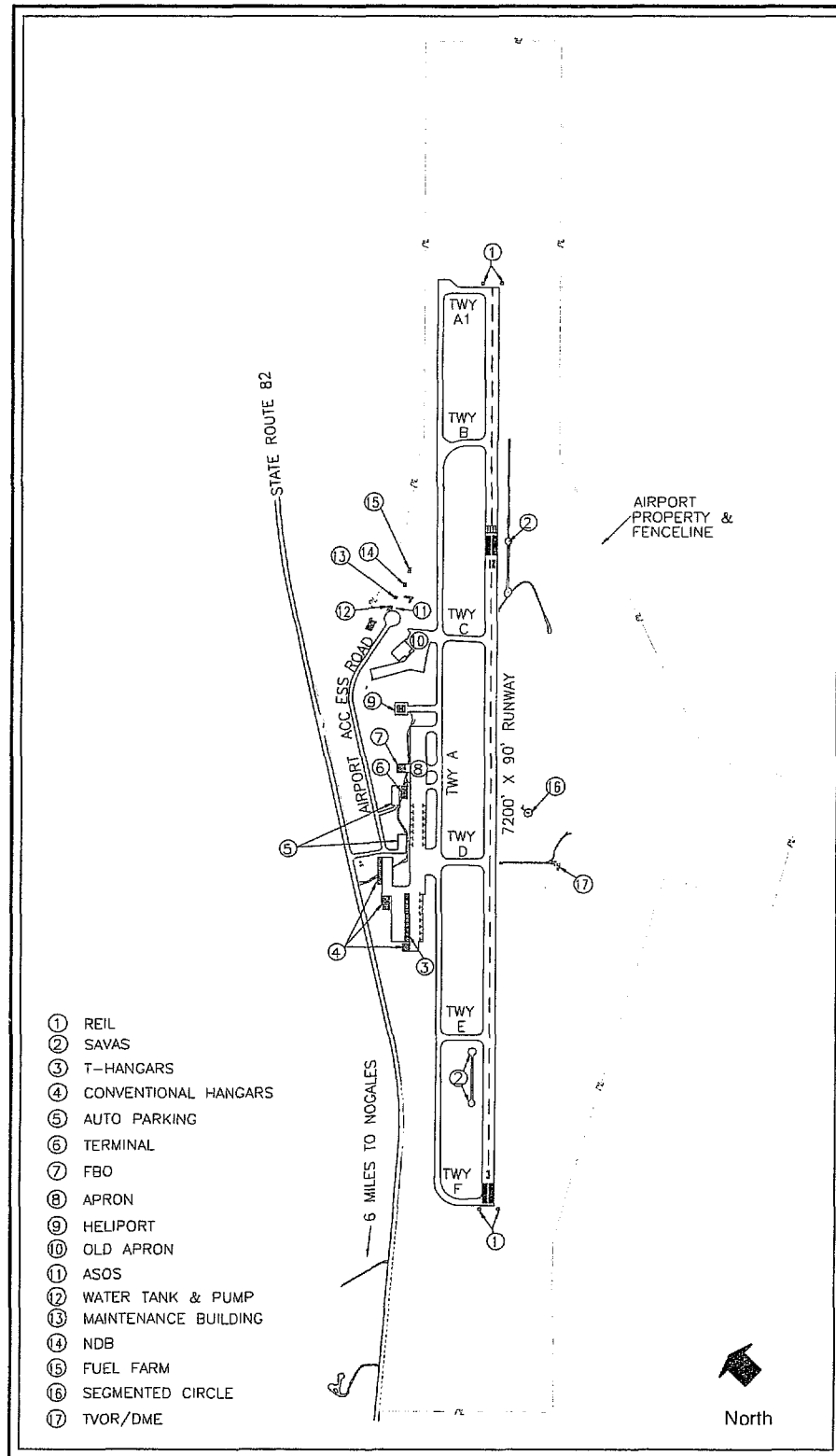
Nogales International Airport is a general aviation airport with modern facilities, which are grouped into landside and airside (**Figure 2-3**). Airside facilities refer to the airfield, which is comprised of the runway, taxiways, and navigational and visual aids. Landside facilities lie between the airfield and State Route 82 to include the terminal, FBO facilities, hangars, apron tiedowns, and airport support facilities.

2.4.1 Airside

RUNWAY

Runway 3-21 is the only existing runway on the airport. Its true bearing is N 46° 22' 34" E and has an effective gradient of 1.61 percent sloping down towards Runway 3. The runway is 7,199 feet long with an asphalt surface. It is 90 feet wide except for the recent 1,200-foot extension of Runway 21, which is 100 feet wide. The pavement strength is 30,000 pounds for single wheel and 50,000 pounds for dual wheel. It is marked as a non-precision instrument runway on both runway ends. The threshold for Runway 21 is displaced 1,912 feet. However the FAA recently approved the relocation of the existing displaced threshold from its current 1,912-foot threshold to a reduced 900-foot threshold, increasing the landing distance available on Runway 21 by more than 1,000 feet. Lighting for the runway is provided with medium intensity runway lights (MIRLs).

FIGURE 2-3 EXISTING AIRPORT



Not to Scale

Prepared by Stantec Consulting Inc.

TAXIWAYS

The airport's taxiway system consists of a parallel taxiway, runway exits, and connectors (**Figure 2-3 and Table 2-2**). Taxiway A runs parallel to the runway. The separation distance is 380 feet. There are six runway exits connecting the runway to the parallel taxiway. The intersection between Taxiway A and A1 provides for a hold pad. Only Taxiway D provides complete passage to the apron from the runway. Three additional connectors north of Taxiway D provide access between the parallel taxiway and apron. They measure 50 feet wide. A heliport taxiway, 50 feet wide, connects the parallel taxiway to the heliport.

TABLE 2-1 TAXIWAYS

TWY	TYPE	SURFACE	WIDTH	LIGHTS
A	Parallel	Asphaltic Concrete	40'	Reflectors
A1	Exit	Asphaltic Concrete	50'	Reflectors
B	Exit	Asphaltic Concrete	50'	Reflectors
C	Exit	Asphaltic Concrete	40'	Reflectors
D	Exit	Asphaltic Concrete	50'	Reflectors
E	Exit	Asphaltic Concrete	40'	Reflectors
F	Exit	Asphaltic Concrete	50'	Reflectors

Source: Santa Cruz County

HELIPORT

Nogales International Airport has one heliport, which was constructed recently (1999). It is located north of the apron where it replaced the previous FBO hangar. The heliport's dimensions are 97.5 by 97.5 feet. Centered is the touchdown and liftoff area (TLOF), also referred to as a helipad. It is a load bearing, generally paved area, on which the helicopter lands or takes off. The TLOF at the airport measures 54 by 54 feet.

NAVIGATIONAL AND VISUAL AIDS

There are two forms of navigational aids available in Nogales International Airport, and they are the Terminal Very High Frequency Omni Directional Radio Range with Distance Measuring Equipment (TVOR/DME) and a nondirectional beacon (NDB). Both of these aids can be used to determine the aircraft's bearing from the transmitters' location. The DME of the TVOR/DME provides the ability to also calculate the distance. The TVOR/DME is located midfield, east from the runway. It is positioned 500 feet from the runway, aligned with Taxiway D. The NDB is located on the opposite side of the TVOR/DME, adjacent to the fuel farm.

Runway End Identifier Lights (REIL) and SAVASI, a form of a visual approach slope indicator, are visual aids providing approach guidance to Runway 3-21. REILs are located outside runway end corners. They aid in early identification of the runway and runway end. The SAVASI provides visual approach slope guidance using light signals. The signals aid the pilot of an aircraft in determining the correct glide slope. The SAVASI for Runway 3 is located south of Taxiway E, 125 feet from the runway centerline. Also positioned 125 feet from the runway centerline, the SAVASI for Runway 21 is located between Taxiways B and C east of the runway.

Although a wind cone is not technically a form of navigational or visual aid, it does provide the pilot of an aircraft guidance in safely approaching the runway. The airport has a lighted wind cone and segmented circle, located midfield east of the runway.

2.4.2 Landside

TERMINAL/FIXED BASE OPERATOR

The airport is owned by Santa Cruz County, but operated and maintained by Tiffin Aviation Services, the only FBO on the airport. The old passenger terminal building had become obsolete and been torn down since there has not been air service in Nogales International Airport for many years.

A new terminal building houses Tiffin Aviation Services. The building provides the FBO space for a restaurant, fixed-wing and rotorcraft flight school, aircraft rental and sales, and administration of its fixed base operations. The building also includes a lobby, pilot lounge, and restrooms to accommodate passengers, pilots, and visitors passing through Nogales International Airport.

As an airport-of-entry, Federal Inspection Services (FIS) is required on the airport for inspection of passengers, aircraft, crewmembers, baggage, and cargo. FIS includes Immigration, Customs, Agriculture, and Public Health Service. The FIS is also located in the new terminal building.

The building is located midfield on the west side of the airfield. A two-lane paved roadway provides access to the terminal from State Route 82. The structure measures approximately 4,186 square feet.

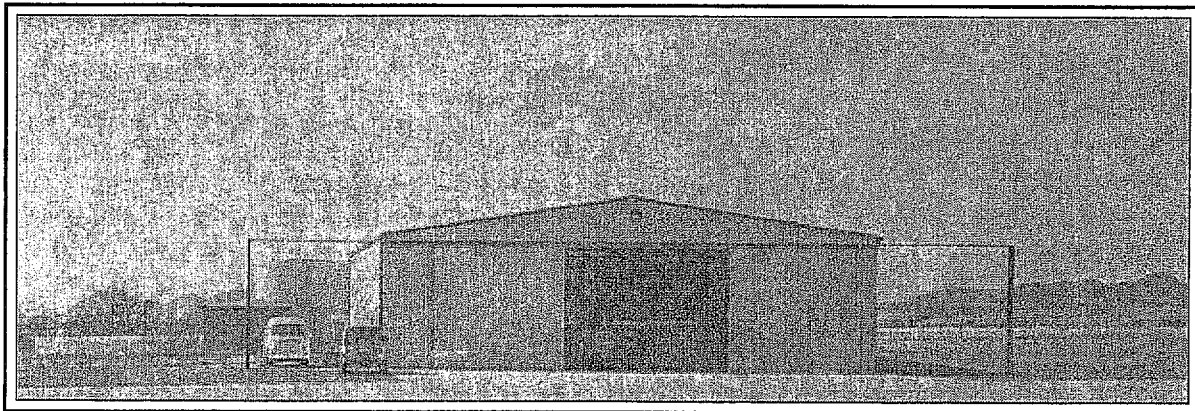


Terminal Building

Photograph taken by Stantec Consulting Inc.

HANGARS

There are a total of 21 hangar spaces/cells at the airport. Hangar types include FBO, conventional, box, and t-hangars. The FBO hangar is located just north of the terminal. The others are located south of the terminal between the parallel taxiway and the western boundary of the airport. The FBO hangar measures 4,536 square feet, and is used for aircraft maintenance services and to store and maintain the aircraft used by the flying school. The conventional hangars serve corporate and private use. The private use hangar is located west of the t-hangars and measures approximately 3,080 square feet. One corporate hangar is located adjacent to the privately leased hangar and the other on the south end of the t-hangars, measuring 2,526 and 3,178 square feet, respectively. The box hangars are essentially one structure with five cells. The whole building measures 7,596 square feet and the individual cells 1,512 square feet. The t-hangars are also contained in one complex with 12 aircraft spaces or cells. The complex measures 13,300 square feet.



FBO Hangar

Photograph taken by Stantec Consulting Inc.

APRON TIEDOWNS

The apron runs northeast-southwest, parallel to the runway and west of the taxiway. It measures approximately 150 feet by 1,800 feet for a total area of 270,000 square feet. Additional apron, approximately 80,000 square feet, provides aircraft circulation between the t-hangars and the conventional and box hangars.

Beginning from the northern edge of the primary apron moving south, the first 97,500 square feet of apron provides aircraft circulation and support for the FBO terminal and air traffic utilizing the terminal. It also provides parking space for aircraft to be inspected by the FIS. The next 56,250 square feet of apron is designated for corporate aircraft parking. It consists of 14 tiedowns. The next apron section (56,250 square feet) is basically an intersection between the taxiway system, northern apron, and the apron supporting the hangars. The last section of the primary apron (60,000 square feet) provides circulation on the east side of the t-hangars and 8 tiedown spaces.

AUTO PARKING

There are two areas designated for auto parking on the airport. The parking area in front of the terminal measures 13,125 square feet and provides 28 parking spaces. Two of which are designated for handicapped. Additional auto parking is provided adjacent to the corporate tiedown apron. It also measures 13,125 square feet and provides 28 parking spaces for the corporate users. Tenants leasing hangar space at the airport generally park their vehicles inside the hangars.

AIRPORT SUPPORT

Airport support facilities refer to facilities that provide for the operation and maintenance of the airport. They include security, aircraft rescue and firefighting facilities (ARFF), airport maintenance, service roads, automated surface observation system (ASOS), and utilities.

→ **Security**

A fence, which includes barbed-wired and chain linked, encloses the entire airport. However, the fence line includes three parcels mistakenly represented as airport property in the past. These three parcels lie between the actual airport property boundary on the east side of the airport and the eastern fence line as previously shown in Exhibit 2-3. There are seven gates providing access around the airport. One is located southeast of the airport, another northeast beyond Runway 21, and the rest along the western boundary of the airport. Lock and key secure all the gates except for one, which is power-driven and access is provided by magnetic cards.

Only the FBO operator and its five employees have access to all the gates. Airport tenants utilize the powered gate to get onto the airfield with magnetic cards, which is managed by the FBO operator. Law enforcement and emergency personnel have access through the powered gate by using their siren to automatically trigger the gate open.

The Santa Cruz County Sheriff Office is called upon for law enforcement emergencies at the airport. The FBO operator can directly radio the sheriff office and has the authority to designate the level of response.

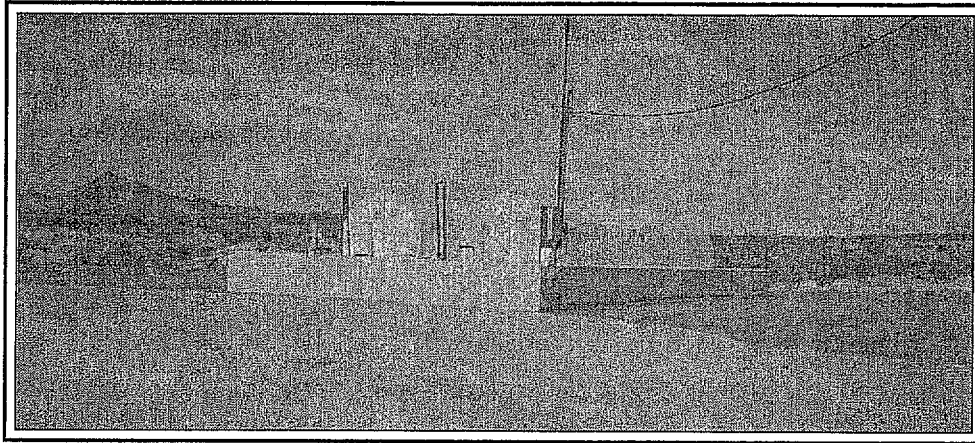
→ **ARFF**

Nogales Suburban Fire District provides aircraft rescue and firefighting support at Nogales International Airport. The fire district is staffed with eight to ten professional firefighters with additional volunteer support. The firehouse is manned by at least two people at all times. In addition to the typical firefighting equipment, the fire district also houses foam for emergencies requiring special extinguishing capabilities such as airfield emergencies. As with the sheriff office, the FBO can also directly radio the fire district with the authority to designate the response level.

→ **Airport Maintenance**

Airport maintenance is included with the Santa Cruz County's Public Works Department, Building and Grounds Maintenance Division. The FBO provides minor airport maintenance.

→ Aircraft Fueling



Fuel Farm

Photograph taken by Stantec Consulting Inc.

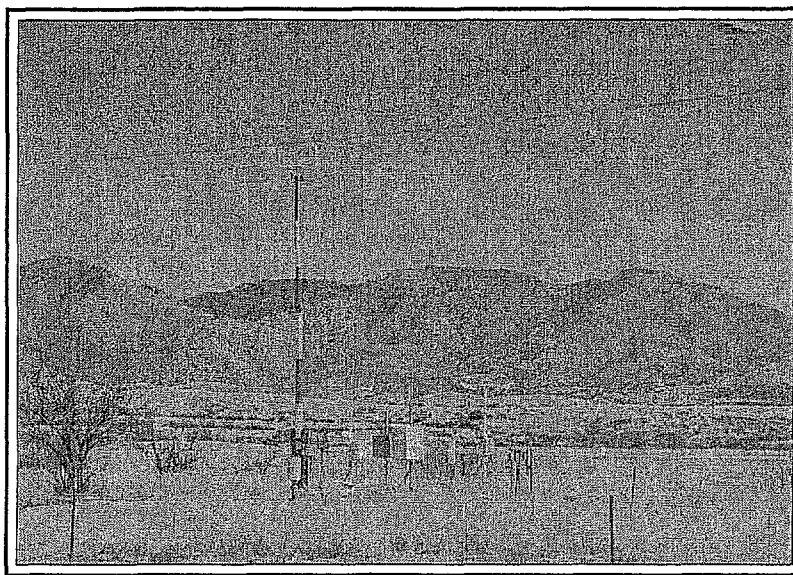
Aircraft fueling service is provided by the FBO, which has available both Jet-A and 100LL fuel. The fuel is stored in two 12,000-gallon storage tanks, which are placed in the fuel farm that is located on the north side of the airport just beyond the old terminal facility area. Aircraft fuel delivery tank trucks are used for the dispensing of fuel. There are two fuel tank trucks, one for each fuel type, on the airport with a 800-gallon capacity each. All refueling and fuel transfer operations are conducted within applicable county, state, and federal guidelines. Each of the five FBO employees is properly trained for handling fuel per the Phillips 66 training program.

→ Service Roads

There is a network of service roads throughout the airport property providing passage to any point on the airport. The surface for all the service roads is dirt. Some are well defined while others are more obscured, which is probably due to the level of usage. The service roads can be accessed from anywhere on the airport.

→ ASOS

Nogales International Airport has an ASOS on site. It is located on the north side of the airport just south of the fuel farm. The system collects surface observations pertaining to temperature, wind velocity and direction, and rainfall. Data is recorded every fifteen minutes and download directly to the FAA Flight Service Station.



ASOS

Photograph taken by Stantec Consulting Inc.

→ UTILITIES

The utilities available at the airport include water, wastewater, electrical, and telephone. The new water and wastewater system is in place at the airport as part of the industrial park infrastructure development. The service is to be provided by the City of Nogales. Prior to the new system, water supply for the airport was provided from a well utilizing a water tank and pump, which will now be demolished. The airport electrical system plan includes overhead and underground electrical power, which is provided by Citizens Utilities Company. It supports all the facilities west of the runway, the airfield, and navigational aid instruments located east of the runway. U.S. West Communications provides telephone service at the airport. The telephone system plan also includes both overhead and underground lines. Currently, only the terminal and hangars are tied into the telephone system.

2.5 AVIATION ACTIVITY

An airport is essentially defined by its aviation activity. It factors into establishing the airport's position within the FAA's National Plan of Integrated Airport Systems (NPIAS) and sets the design standards by which the airport is operated and developed. Where the airport fits within the NPIAS is important particularly when it pertains to how airport improvement funds are distributed. Within the NPIAS, Nogales International Airport falls under the general aviation service level and categorized as a general utility airport, which means it can accommodate virtually all general aviation traffic.

Design standards for operating and developing an airport are interpreted by a coding system referred to as the airport reference code (ARC). The ARC ties in the airport design standards with the operational and physical characteristics of the most demanding aircraft or family of aircraft predominantly operating at the airport.

The aircraft approach category and airplane design groups make up the airport reference code (Tables 2-3 and 2-4). The former refers to the aircraft approach speed and is

categorized according to five speed levels. The latter refers to the airplane's wingspan and is grouped according to six dimensional levels

TABLE 2-2 AIRCRAFT APPROACH CATEGORY

CATEGORY	SPEED	EXAMPLES
A	Less than 91 knots.	Beech Bonanza, DHC-8
B	91 knots or more but less than 121 knots.	Falcons, Citation II
C	121 knots or more but less than 141 knots	Learjet, B-737
D	141 knots or more but less than 166 knots	Gulfstream II, B-777
E	166 knots or more	

Source: FAA AC 150/5300-13 Airport Design

TABLE 2-3 AIRPLANE DESIGN GROUP

GROUP	WINGSPAN	EXAMPLES
I	Up to but not including 49 feet	Beech Bonanza, Learjet
II	49 feet up to but not including 79 feet	Falcons, Gulfstream II
III	79 feet up to but not including 118 feet	DHC-8, B-737
IV	118 feet up to but not including 171 feet	Vickers Vanguard, B-777
V	171 feet up to but not including 214 feet	B-52, B-747
VI	214 feet up to but not including 262 feet	AN-124, C-5B Galaxy

Source: FAA AC 150/5300-13 Airport Design

The larger corporate jet and turbo twin-engine aircraft are the aircraft currently operating at Nogales International Airport on a regular basis. Types include Falcons, Citations, Gulfstreams, Learjets, and Convairs. Although this group of aircraft appears similar, their airport reference code designation varies. For example, the Falcons and Citations are designated as B-II aircraft, while the Convairs are B-III aircraft. As for the Gulfstreams and Learjets, they range from B through D aircraft approach category. Consequently, there is no one aircraft type that can define the airport reference code. Instead, the most demanding family of aircraft predominantly operating at the airport, determines the ARC of the airport. While this has historically been the B-II aircraft family (per the previous airport layout plan), recent aviation activity estimates confirm that the C-II aircraft family is operating at the airport on a regular basis. Thus, C-II represents the ARC for the airport.

2.5.1 Based Aircraft

There are 36 aircraft based at Nogales International Airport (**Table 2-5**). The majority are single engine aircraft, but include piston twin engine, turbo-prop twin engine, and turbine rotorcraft. The tenants are all residents of Nogales with the majority being business professionals. The purpose for flying is split 50-50 between recreational and business for the tenants.

TABLE 2-4 BASED AIRCRAFT

AIRCRAFT	EXAMPLES	QUANTITY
Single engine	Small Cessnas and Pipers	25
Piston twin engine	Beech and Cessna Twins	6
Turbo-prop twin engine	Cheyenne	1
Turbine rotorcraft	MD 500 and UH1 Huey	4
Total		36

Source: Tiffin Aviation

2.5.2 Operations

Air traffic has steadily been increasing since 1994 when the airport logged over 6,000 operations (**Table 2-6**). There were over 27,000 aircraft operations last year in 1999. Nogales International Airport has a significant amount of local aviation activity (42 percent), which refers to training type operations such as touch and go's (**Tables 2-7 and 2-8**). The majority of the local operations were by general aviation. Of the total operations, general aviation accounted for 84 percent, air taxi activity was at 10 percent, and military operations at 6 percent.

TABLE 2-5 TOTAL OPERATIONS

YEAR	ITINERANT	LOCAL	TOTAL
1994	3,505	2,538	6,043
1995	7,660	5,547	13,207
1996	10,651	7,713	18,364
1997	12,767	9,245	22,012
1998	13,836	10,020	23,856
1999	16,097	11,657	27,754

Source: Tiffin Aviation

TABLE 2-6 ITINERANT OPERATIONS

YEAR	AIR TAXI	GA	MILITARY	TOTAL
1994	604	2,538	363	3,505
1995	1,321	5,547	792	7,660
1996	1,836	7,713	1,102	10,651
1997	2,201	9,245	1,321	12,767
1998	2,386	10,0195	1,431	13,836
1999	2,775	11,657	1,665	16,097

Source: Tiffin Aviation

TABLE 2-7 LOCAL OPERATIONS

YEAR	GA	MILITARY	TOTAL
1994	2,358	180	2,538
1995	5,154	393	5,547
1996	7,168	545	7,713
1997	8,591	654	9,245
1998	9,312	708	10,020
1999	10,833	824	11,654

Source: Tiffin Aviation

2.6 TRAFFIC CONTROL AND AIRSPACE

2.6.1 Procedures

There is no air traffic control tower at Nogales International Airport. In addition to flying the standard left traffic pattern, pilots operating in and around the airport are urged to use the communications radio to announce their positions and intentions. Radio service at the airport is provided via the UNICOM, which is manned by the FBO. The UNICOM operator relays information about known air traffic in the area, airport conditions, and airport guidance. Special procedures at Nogales International Airport includes Runway 3 being closed to touch-and-go operations and Runway 21 designated as the calm wind runway.

Nogales International Airport has three published non-precision circling approaches. They consist of VOR, VOR/DME, and NDB procedures or GPS-A, B, and C, respectively. The approaches are from the west-northwest guided by the TVOR/DME and NDB stations located on the airport. The lowest visibility minimum for each non-precision approach is 1¼ miles.

2.6.2 Airspace

In conjunction with the airport's prescribed instrument approach procedures, the airspace above Nogales International Airport is designated Class E airspace (**Figure 2-4**). Class E airspace is controlled airspace within which aircraft operators are subject to certain pilot qualifications, operating rules, and equipment requirements; however, an arrival or through flight clearance to enter is not required. The controlled airspace, with a floor of 700 feet above ground, covers an area 5 statute miles radius around the Nogales International Airport, including a west-northwest extension containing the instrument procedures.

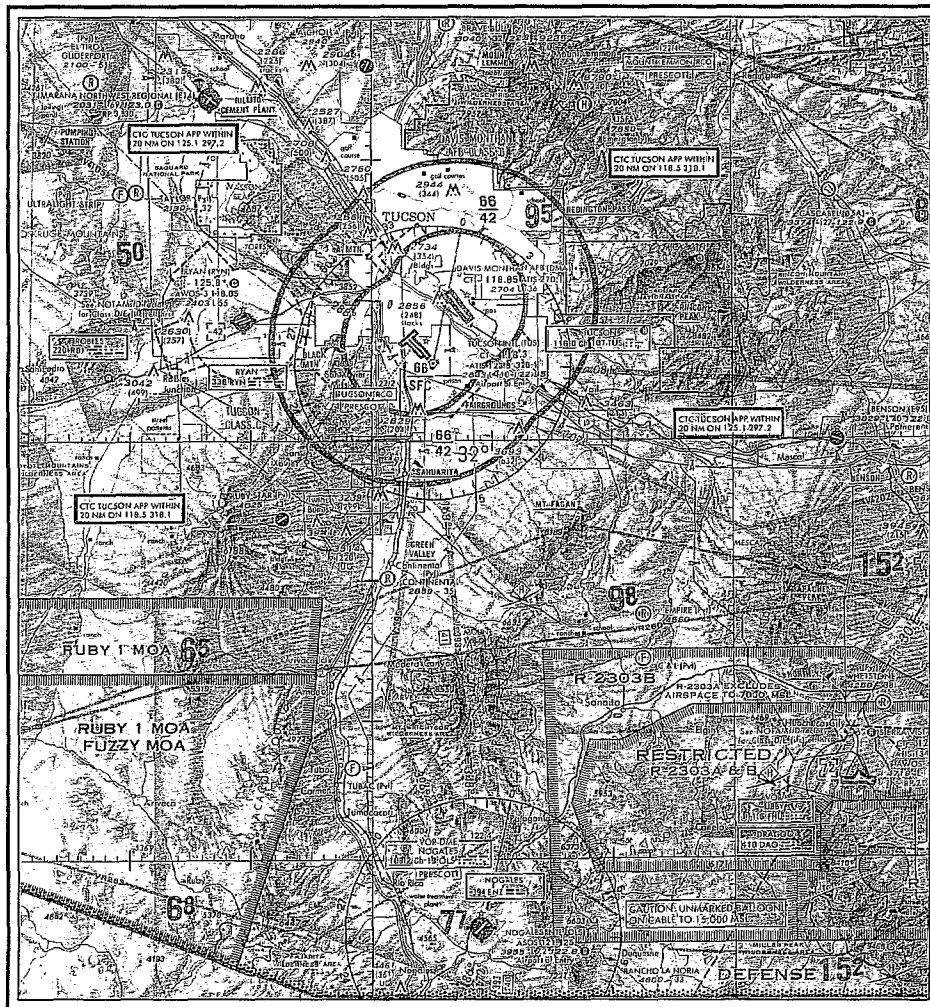
Special use airspace in the vicinity of the airport includes the restricted airspace over Fort Huachuca and the Ruby 1 and Fuzzy Military Operating Areas (MOA). Special use airspace refers to airspace of defined dimensions wherein activities must be confined because of their nature and/or wherein limitations may be imposed upon aircraft operations that are not a part of those activities.

The restricted airspace over Fort Huachuca begins approximately 6 statute miles east from Nogales International Airport and continues easterly beyond Fort Huachuca. The airspace restricts but does not prohibit flights of aircraft not associated with Fort Huachuca. Twenty-four hour in advance clearance is required from Albuquerque Air Route Traffic Control Center (ARTCC), the controlling agency.

The Ruby 1 and Fuzzy MOAs are located approximately 18 statute miles west from Nogales International Airport. A MOA is airspace established to separate certain nonhazardous military activities from other traffic. Clearance is required from Albuquerque ARTCC between 7:00 AM and 7:00 PM for the Fuzzy MOA and 6:00 AM to 7:00 PM (Monday through Friday) for Ruby 1 MOA. Fuzzy MOA covers altitudes from 100 feet above ground up to but not including 10,000 feet and Ruby 1 MOA covers the 10,000-foot above ground altitude level.

The wilderness areas nearest to the airport include Parajita to the west approximately 10 miles and Mt. Wrightson to the north, approximately 15 miles.

FIGURE 2-4 AIRSPACE



Not to Scale



2.7 SOCIOECONOMIC FACTORS

2.7.1 Population

The U.S. City of Nogales has a population of over 21,500 (**Table 2-8**). It has been growing at an annual average of 1.27 percent since 1993 when its population was almost 20,000. Santa Cruz County and the State of Arizona experienced higher average annual growth rates of over 3.5 percent for the same period. The county went from a population of 31,525 in 1993 to over 39,100 in 1999, and Arizona grew from almost 4 million to 4.5 million. Even with the lower growth rates, Nogales continues to be the largest city in the county averaging approximately 55 percent of the county's population. Santa Cruz County is the smallest county in the state, averaging less than one percent of the state's population.

TABLE 2-8 POPULATION

YEAR	NOGALES	SANTA CRUZ	ARIZONA
1993	19,990	31,525	3,958,875
1994	20,300	32,400	4,071,650
1995	20,655	33,875	4,228,900
1996	20,765	35,050	4,462,300
1997	21,075	36,350	4,600,275
1998	21,205	37,800	4,764,025
1999	21,565	39,100	4,924,350

Source: Arizona Department of Economic Security

Note: For comparison purposes, Census 2000 data reflects a Nogales population of 20,878 and a Santa Cruz County population of 38,381, reflecting a slight decrease from the DES 1999 figures. However, Census 2000 data reflects an increase for Arizona over 1999 with a population of 5,130,632 for the state.

2.7.2 Demographics

The most current population demographic data available is the 1990 Census, of which the Arizona Department of Economic Security derives its population projections. The census indicates that the three largest age groups throughout the state, including the City of Nogales and Santa Cruz County, are the 10 through 19, 25 through 34, and the 35 through 44 age groups (**Table 2-9**). The smallest being the 20 through 24 age group. For the City of Nogales and Santa Cruz County, the largest group is the 10 through 19 age group, while the 25 through 34 is the largest age group for Arizona. In reference to race origin (**Table 2-10**), the 1990 census indicates that over 90 percent and nearly 80 percent of the population is of Hispanic origin for the City of Nogales and Santa Cruz County, respectively. Population group of White origin is the largest for Arizona at over 70 percent.

TABLE 2-9 POPULATION DEMOGRAPHICS – AGE GROUPS

AGE GROUPS	NOGALES	SANTA CRUZ	ARIZONA
Under 5	1,862	2,755	292,859
5-9	1,918	2,824	281,733
10-19	3,998	5,596	519,286
20-24	1,358	1,844	279,921
25-34	2,861	4,331	634,899
35-44	2,533	4,012	528,708
45-54	1,700	2,733	349,516
55-64	1,462	2,435	299,532
65+	1,797	3,146	478,774
Total	19,489	29,676	3,665,228

Source: 1990 Census Summary Tape File 1A-Arizona

TABLE 2-10 POPULATION DEMOGRAPHICS – RACE ORIGIN

RACE ORIGIN	NOGALES	SANTA CRUZ	ARIZONA
Hispanic	17,924	23,221	688,338
White	1,410	6,168	2,626,185
Black	37	56	104,809
American Indian, Eskimo & Aleut	10	29	190,091
Asian & Pacific Islander	56	131	51,530
Other	52	71	4,275
Total	19,489	29,676	3,665,228

Source: 1990 Census Summary Tape File 1A-Arizona